

IN THE CLAIMS:

1 1. (currently amended) An optical waveguide sensor comprising:
2 a housing, the housing having an interior and exterior surface, the exterior surface
3 having at least two layers, ~~the first layer comprised of a low index of refraction material and the~~
4 ~~second layer comprised of a highly reflective material;~~
5 a first optical fiber in communication with the housing;
6 a second optical fiber in communication with the housing; and
7 means for detecting the change in the intensity of light when light is passed
8 through the housing, reflected and refracted within the housing and received by the second
9 optical fiber, the optical wave guide sensor being capable of measuring up to at least 2000 $\mu\epsilon$
10 when the housing is stressed.

1 2. (original) The optical waveguide sensor according to claim 1 wherein the housing
2 has first and second opposed ends, the first optical fiber in communication with the first end and
3 the second optical fiber in communication with the second end.

1 3. (original) The optical waveguide sensor according to claim 1 wherein the first layer
2 is comprised of polyimide.

1 4. (original) The optical waveguide sensor according to claim 1 or 3 wherein the
2 second layer is comprised of aluminum.

1 5. (original) The optical waveguide sensor according to claim 1 wherein the first layer
2 is selected from the group consisting of polyimide, silicon and germanium.

1 6. (original) The optical waveguide sensor according to claim 1 or 5 wherein the
2 second layer is selected from the group consisting of aluminum, silver, platinum and palladium.

1 7. (original) The optical waveguide sensor according to claim 1 wherein the sensor is
2 insensitive to temperatures in the range of about -20 to 50°C .

1 8. (original) The optical waveguide sensor according to claim 1 wherein the optical
2 fibers are multimode.

1 9. (original) The optical waveguide sensor according to claim 1 wherein the housing is
2 comprised of glass.

1 10. (original) The optical waveguide sensor according to claim 9 wherein the housing is
2 cylindrical.

1 11. (original) The optical waveguide sensor according to claim 10 wherein the housing
2 has dimensions of 0.5mm inside diameter x 1mm outside diameter x 100mm long.

1 12. (original) The optical waveguide sensor according to claim 11 wherein the optical
2 waveguide sensor has a gage factor of 490.

1 13. (new) An optical wave guide sensor comprising:

2 a housing, the housing having an interior and an exterior surface, the exterior
3 surface having at least one layer;

4 a first optical fiber in communication with the housing;

5 a second optical fiber in communication with the housing; and

6 means for detecting the change in the intensity of light when the light is passed
7 through the first optical fiber, into the housing, reflected and refracted within the housing
8 and received by the second optical fiber, the optical wave guide sensor being capable of
9 measuring up to at least 2000 $\mu\epsilon$ when the housing is stressed.

1 14. (new) The optical waveguide sensor according to claim 13 wherein the layer is
2 selected from the group consisting of polyimide, indium tin oxide, zinc oxide, silicon and
3 germanium.

1 15. (new) The optical waveguide sensor according to claim 14 wherein the layer is
2 comprised of polyimide.

1 16. (new) The optical waveguide sensor according to claim 15 wherein the housing is
2 comprised of glass.

1 17. (new) The optical waveguide sensor according to claim 16 wherein the thickness of
2 the layer is within the range of between 20 to 28 μm .

1 18. (new) The optical waveguide sensor according to claim 17 wherein the housing is
2 cylindrical and has an inside diameter within the range of between 0.518 and 0.542mm and a
3 thickness of within the range of between 0.073 and 0.097 μm .

1 19. (new) The optical waveguide sensor according to claim 18 wherein the optical
2 waveguide sensor is capable of measuring up to at least 5000 $\mu\epsilon$ when the housing is stressed.

1 20. (new) An optical wave guide which comprises:

2 a housing, the housing having an interior and an exterior surface, the exterior
3 surface having at least one layer, the housing having first and second open ends;

4 a first optical fiber in communication with the first open end; and

5 a second optical fiber in communication with the second end, wherein strain on the
6 housing of at least 2000 $\mu\epsilon$ is capable of being measured when the change in the intensity
7 of light exiting the second open end is detected subsequent to the passage of light of a
8 known intensity through the first optical fiber and the housing, the change in the intensity
9 of light corresponding to the strain on the housing.

IN THE TITLE

Please delete the title and insert therefor the following:

“Intensity-based Optical Waveguide Sensor”